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STUDIES OF PERUVIAN BIRDS. XIII

THE GENERA *DENDREXETASTES, CAMPYLORAMPHUS,* AND *DENDROCINCLA*

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Names of colors when capitalized indicate direct comparison with Ridgway's 'Color Standards and Color Nomenclature.'

Dendrexetastes rufigula devillei (Lafresnaye)

Dend(rocolaptes) Devillei LAFRESNAYE, 1850, Rev. Mag. Zool., (2) II, p. 102—"Sayaracu" = Sarayacu, Río Ucayali, Perú; Paris Mus.

This form has somewhat broader limits of distribution than heretofore recorded. Among the specimens at hand are three from eastern Ecuador and two from Bolivia; also four from the left bank of the Rio Madeira, Brazil, and three from eastern Perú.

This material shows the form to be rather variable without regard to locality. A female from eastern Ecuador and one from the left bank of the Rio Madeira are unusually dark and rufescent, and I have seen another example from eastern Ecuador (in the collection of the National Museum of Buenos Aires) similarly colored. The belly is variably suffused with a light ferruginous tint. The pectoral stripes are usually restricted to the chest, rarely suggested on the throat, often without strong dusky margins, and frequently very narrow; when they are most poorly developed, the ground color of the breast is little or not at all darker than the belly, though usually it is a little more deeply colored. The forehead ordinarily is noticeably brighter or lighter than the crown in a broad area, though in one skin from Bolivia there is little distinction. The bases of the neck feathers are broadly whitish with slight prolongations distad along the shafts, not developed enough to form shaft-stripes except in a single female from Lagarto, upper Río Ucayali. In this example there are narrow shaft-streaks that are made somewhat

prominent by the loss of some of the feathers on the hind neck, but they are poorly developed.

On the other hand, three examples from east of the Rio Madeira have well-developed sagittate streaks in a band completely encircling the neck and joining the even more conspicuously streaked area across the breast. Other characters are combined with this feature sufficient to warrant the separation of a distinct form which may be characterized as follows.

Dendrexetastes rufigula moniliger, new subspecies

TYPE from Borba, Rio Madeira (right bank), Brazil. No. 279,759, American Museum of Natural History. Adult male collected February 12, 1930, by the Olalla brothers.

DIAGNOSIS.—Nearest to *D. r. devillei* of eastern Perú, but general color duller, less rufescent; breast darker, more strongly tinged with dark grayish olive and with the pale shaft-stripes broader and more heavily bordered with dusky; bill darker; hind neck and sides of neck prominently streaked with whitish, much less pronouncedly than in *D. r. rufigula* of French Guiana and adjacent parts of northeastern Brazil. Forehead less distinctly paler than the crown.

RANGE.—Right bank of the Rio Madeira, Brazil.

DESCRIPTION OF TYPE.—Top of the head Buffy Brown; forehead narrowly tinged with Sayal Brown; hind neck and sides of neck Olive Brown with sagittate streaks of white, not reaching the tips of the feathers but broadening at base to involve the whole of the webs where there is a light buffy tinge; these streaks only faintly margined with a darker tone; mantle near Saccardo's Umber, unmarked except adjoining the hind neck; lower back Russet x light Auburn; upper tail-coverts a little clearer and "redder." Auriculars like nape; lores slightly grayish; malar region warmer, like forehead; chin and most of throat deep Cinnamon-Buff; lower throat, breast, and sides dark Buffy Brown, each feather with a broad shaft-stripe of white bordered by a dusky line, rounded at tip and not reaching tip of feather; belly Isabella x light Tawny Olive, noticeably lighter than the breast, unmarked; thighs and under tail-coverts similar to belly; under wing-coverts cinnamomeous. Primaries light Chestnut on outer margins of outer webs, paler on inner webs, especially on inner margins; this rufescent color restricted to the basal third of the outermost primary, increasing in extent on succeeding quills, being nearly obsolete on the seventh (from outside) and quite absent from the eighth; innermost primaries, secondaries, and tertials entirely rufescent, with outer margins browner; upper wing-coverts near the color of the mantle. Tail bright Chestnut-Brown. Bill (in dried skin) pale horn-color, darker on culmen, paler on mandible which has a tinge of yellowish near gonys and is slaty basally; feet dark slate. Wing, 107.5 mm.; tail, 110; exposed culmen, 30; culmen from base, 34.5; tarsus, 24.

REMARKS.—Female similar to the male but smaller. Wing, 101 mm.; tail, 103; exposed culmen, 28; culmen from base, 34; tarsus, 25.12. The single specimen of this sex is paler than the type. A second male is paler and more vinaceous than the type on the scapulars and upper

wing-coverts but these parts are worn and the mantle, which is fresher, is even darker than in the type.

A specimen from Calamá, right bank of the Rio Madeira, was noted by Hellmayr (1910, Novit. Zool., XVII, p. 327), as having well-developed streaks on the hind neck, but he refrained from naming it, having but the single example. The present series shows the constancy of the character.

While *moniliger* is, of course, intermediate between *rufigula* and *devillei*, its characters are quite positive and its range easily defined from the ranges of the other two although the eastern limits of its distribution have yet to be determined. There is no approach, taxonomically, in the birds from the left bank of the Rio Madeira, though a single skin from the Ucayali, eastern Perú, shows some suggestion of the cervical streaking as noted under *devillei*. An additional character suggested by Hellmayr (*loc. cit.*)—the development of obscure whitish shaft-marks on the throat, is poorly shown by the specimens at hand of *moniliger* though observable in some skins of *devillei*. It is evidently individually variable.

There is no indication of the white postocular stripe of the Pará form, *paraensis*, which appears, from descriptions, to be quite distinct. I have no examples of that subspecies.

Specimens Examined

D. r. rufigula.—Brazil: Faro, 1 ♂, 1 ♀; Manaos, 2 ♂, 1 ♀; Igarapé Cacao Pereira (above Manaos), 1 ♀.

D. r. devillei.—Perú: Sarayacu, 1 ♂, 1 ♀; Lagarto, upper Ucayali, 1 ♀. Ecuador: mouth of Río Curaray, 3 ♀; Bolivia: Todos Santos, 2 ♂. Brazil: Rio Madeira (left bank), Rosarinho, 3 ♂, 1 ♀.

D. r. moniliger.—Brazil: Rio Madeira (right bank), Borba, 1 ♂ (type); Igarapé Auará, 1 ♂; Porto Velho, 1 ♀.

Campyloramphus trochilirostris thoracicus (Sclater)

Xiphorhynchus thoracicus Sclater, 1860, P. Z. S. London, XXVIII, p. 277—Babahoyo, western Ecuador; British Mus.

Campylorhamphus trochilirostris zarumillanus Stolzmann, 1926, Ann. Zool. Mus. Polon. Hist. Nat., V, p. 222—Lechugal, northwestern Perú; ♀; Warsaw Mus.

I have seen no Peruvian material, but the characters given by Stolzmann are easily matched in a series of *thoracicus* from western Ecuador (except for the length of the tail which is of little value in this group owing to its extreme variability, due to the wear to which it is subjected). Since Stolzmann had but a single male specimen of *thoracicus* with which to compare his supposed new form, the type of which was a unique female, there is little confidence to be placed in the separation of

zarumillanus. There are no other Peruvian records belonging to this form. Records from eastern Perú belong to *napensis*, treated below.

Campyloramphus trochilirostris napensis Chapman

Campylorhamphus trochilirostris napensis CHAPMAN, 1925 (Sept. 28), Amer. Mus. Novitates, No. 187, p. 4—Río Suno, above Avila, eastern Ecuador; ♂; Amer. Mus. Nat. Hist.

A female from Santa Rosa, upper Ucayali, is the third example of this form to be found in Perú. With several additional specimens from eastern Ecuador, the supposed difference in size, which I noted (1930, Field Mus. Nat. Hist. Publ., Zool. Ser., XVII, p. 352) between Peruvian and Ecuadorian examples, is not maintained. A very slight difference in color exists, with the Santa Rosa bird a little more rufescent in tone, but there is much variation in the more northern examples which makes a separation inadvisable. Occasional suggestions of shaft-stripes on the upper wing-coverts, variations in the amount of dusky margining on the gular feathers and in the extent of dorsal and ventral streaking, and slight differences in the color and curvature of the bill are to be found in the Ecuadorian birds and evidently are of an individual nature.

The association of *napensis* with *trochilirostris* is not perfectly clear. In the strong curvature of the bill there is greater resemblance to the *procurvoides* group, but not in the color of the bill nor in the degree of contrast between the colors of the mantle and rump which appear to be of the greatest significance. The blackish outlines of the pale stripes on back and breast are suggestive of *multostriatus* (which I place with *procurvoides*), but the stripes themselves are a little different in character, being broad to the tips, not acutely narrowed as in the *procurvoides* group. I assume the form to be of greater value than the color as a taxonomic character in this case, being less variable. In the shape of the bill there is close approximation between certain specimens of *napensis* and *thoracicus*, though in the latter form the bill normally has the lesser curvature typical of the *trochilirostris* group. In general, *thoracicus* and *napensis* show such similarity that their relationship is evident though their connection with the other members of the group is not so clear. Both are found at relatively low elevations and there is no connectant form which is assuredly conspecific in the intervening region of higher elevation. *C. pusillus pusillus* occupies the Subtropical Zone of northern Ecuador and has some features in common with the *trochilirostris* group, such as a light-colored, lightly curved bill and narrow streaking above and below. It is closer to this group than to *procurv-*

oides but is doubtfully conspecific. Specimens from the western coast of Colombia, at Barbacoas and Cocal, apparently belong to the *pusillus* group, but *thoracicus* occurs at Buenavista, above Barbacoas though at a lower elevation than Cocal. The distributional areas of the two groups here appear to overlap, thus arguing against specific union.

Thus the ranges of *thoracicus* and *napensis* seem to be definitely separated by the barrier of the Andes. Similarly both forms are separated from their nearest allies in the *trochilirostris* group though without such apparent barriers. To the northward, *venezuelensis* reaches Alto Bonito, which like Barbacoas is on the western slopes of the Western Andes, while other forms occur on the Amazon and in northern Bolivia, as will be discussed below.

A male and a female from the lowlands north of Cochabamba, Bolivia, are definitely distinct from *lafresnayanus* of Matto Grosso, Brazil (described from Chiquitos, eastern Bolivia), and even more distinct from *napensis*. It may be known as follows.

Campyloramphus trochilirostris devius, new subspecies

TYPE from Todos Santos, Province of Cochabamba, Bolivia; altitude 1300 feet. No. 137,410, American Museum of Natural History. Adult male collected July 2, 1915, by Leo E. Miller and Howarth Boyle.

DIAGNOSIS.—Nearest to *C. t. lafresnayanus* but with a much shorter bill, with the general coloration decidedly darker, and with a strong hue of buff on the lower throat.

RANGE.—Humid Tropical Zone of northern Bolivia.

DESCRIPTION OF TYPE.—Top of head dark Argus Brown, a little sootier at the tips of the feathers, and with obovate, light buffy shaft-stripes reaching relatively near to the bases of the feathers; hind neck and sides of neck lighter brown, with shaft-stripes broader but less well defined; mantle a trifle lighter than Brussels Brown, with poorly developed shaft-lines of buff, obsolete on the lower portion; rump light Auburn, not abruptly defined from the mantle; upper tail-coverts a little deeper. Lores whitish, with dusky tips; auriculars with buffy shaft-stripes and dark brown margins; malar region with blackish brown margins and broad, buff shaft-stripes; chin buffy white, with rather strong, blackish, lateral margins; throat strongly buff, with dusky margins passing narrowly around the tips of the lower feathers where, however, they are browner and less dusky; breast light Brussels Brown, with moderately broad, buffy shaft-stripes; sides darker, with shaft-stripes narrower and less well defined; belly a little paler and duller, with shaft-stripes progressively less well defined, becoming obsolete on the lower portion; flanks light Argus Brown with a tinge of Auburn; under tail-coverts light Auburn, with faint, pale shaft-lines. Remiges dark Sanford's Brown, clearest on secondaries and tertials; primaries with dusky tips, not sharply defined and occupying no more than the distal third of the outermost one; upper wing-coverts rufous, with a slight tinge of the color of the mantle on their tips and with ill-defined, pale shaft-streaks; lesser coverts not pronouncedly brighter than

the remainder; under wing-coverts deep Ochraceous-Tawny; tail Auburn (x light Chestnut); bill (in dried skin), light Sayal Brown, slightly dusky at base and tip; feet dull, light brown. Bill falcate, but less curved than in the *procurvoides* group. Wing, 102.5 mm.; tail, 92; exposed culmen, 59.5; culmen from base, 62; culmen from base, measured along curve, 67.5; tarsus, 23.

REMARKS.—A female from Mission San Antonio, Río Chimoré, is even darker than the type and is slightly more strongly streaked with the streaks extending a little farther posteriorly. The tip of the maxilla is broken off but the mandible agrees in length with that of the type. The wing is longer (108 mm.) but the tail is shorter (80.5 mm.), presumably due to abrasion; tarsus, 22 mm.

A series of seven specimens of *lafresnayanus* (including the type of "*rufo-dorsalis*") from Matto Grosso, Brazil, and from Paraguay have the culmen from base measuring 70–82 mm.; along the curve, 75.25–86. Measurements of other specimens from Matto Grosso and Paraguay and of the type of *lafresnayanus* (Hellmayr, 1925, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 4, p. 341, footnote *a*) show the same large size. I have no examples from Argentina, which have even longer bills and which have been separated by Laubmann under the name *hellmayri*.

C. t. lafresnayanus is so obviously conspecific with *trochilirostris* that no comment is necessary. The latter form intergrades with *major* somewhere in the neighborhood of Pernambuco where the resident form appears to be intermediate. On the Tocantins and westward to the right bank of the Tapajoz, there appears to be no representative of the *trochilirostris* group. The region is occupied by *multostriatus* which shows closer affinities with the *procurvoides* group, under which it will be further discussed. To the westward of the Tapajoz and on the north bank of the Amazon, however, there is an interesting new form which shows much affinity to the present series with which I believe it may be specifically united. It occurs at the same localities as representatives of the *procurvoides* group which it resembles in various respects, but probably occupies a different ecological niche as will be discussed below. It may be known as follows.

Campyloramphus trochilirostris snethlageae, new subspecies

TYPE from Serra de Parintins, Villa Bella Imperatríz, Rio Amazonas (south bank), Brazil. No. 278,745, American Museum of Natural History. Adult female collected November 15, 1930, by the Olalla brothers.

DIAGNOSIS.—Nearest to *C. t. devius* of northern Bolivia but even darker and duller, with a strong Auburn tinge on the under parts and a cinnamon brown back, moderately streaked; top of head more narrowly streaked; throat white with brown margins but without a buff tinge. Compared with *C. p. procurvoides* of French Guiana

and Faro and *C. p. brasilianus* of Villa Bella Imperatríz, it may be known by its longer, paler, and less strongly curved bill; by the lack of pronounced contrast between the colors of mantle and rump; by the streaks on chest and hind neck being broad distally, not sagittate; by the clearer rufous color of the wings externally; by the more cinnamomeous, less ochraceous color of the under wing-coverts; and by the general auburn tint of the breast and lower under parts.

RANGE.—Both banks of the lower Amazon, at Villa Bella Imperatríz, on the south bank, and at Faro (and apparently also at Monte Alegre) on the north bank.

DESCRIPTION OF TYPE.—Top of head Bister, with broad, rather rectilinear Cinnamon-Buff shaft-stripes, narrowing about the middle of the feathers; hind neck a little paler and with stripes slightly broader and less well defined; mantle warm Cinnamon-Brown, with an Auburn tinge, and with pale buffy shaft-streaks tending to enlarge near the tips of the feathers, broadest near hind neck and hairlike on lower portion; rump only faintly more rufous than the back; upper tail-coverts a little brighter, dark Hazel x light Auburn on the longest feathers. Lores whitish; malar region and auriculars whitish with narrow dusky lateral margins; chin white, with traces of narrow dark margins; throat similar with broader lateral margins; breast and sides warm Brussels Brown with a russet tinge and with broad whitish shaft-stripes, broadly rounded at ends but usually not reaching the tips of the feathers; belly more strongly tinged with russet medially and with stripes becoming obsolete posteriorly; flanks and under tail-coverts between Snuff Brown and Saccardo's Umber. Outer surface of wings light Chestnut (x Auburn); tips of primaries shaded with dusky, about to middle of outer primary; secondaries and tertials clear; under wing-coverts Tawny (x Ochraceous Tawny); tail Bay x Chestnut. Bill (in dried skin) dark Hazel; feet dull slaty. Wing, 104.25 mm.; tail, 91; exposed culmen, 58.5; culmen from base, 61; culmen from base, measured along curve, 67; tarsus, 21.

REMARKS.—Females very like the males but with shorter wings (91.5–97 mm.) and tail (78–88 mm.); bill and tarsus as in the males.

This interesting bird is not entirely unrecorded. In 1913 (Jour. für Orn., LXI, p. 527), Dr. Emilia Snethlage gave some critical notes on a form of *Campyloramphus*, different from *procurvoides* and apparently of the *trochilirostris* group which she found at Faro and Monte Alegre in the "varzea" or inundated forest where *procurvoides* was not found. From the description there is no doubt that Dr. Snethlage had specimens of the present new form to which, however, she did not give a name. A specimen at hand from Faro agrees with the skins from the south bank of the Amazon. A positive association of this bird with the "varzea" would explain its occurrence on both sides of the Amazon, for the river would not be so effective a barrier for species of this habitat as for those of the drier woods. Thus true *procurvoides* which inhabits the drier areas (according to Dr. Snethlage) is restricted to the north bank of the Amazon while on the south bank a separable form is found, as will be discussed on a later page under that species.

Except in the case of *snethlageae* and one other form, treated below,

there is no true "varzea" in the ranges of the different subspecies of *trochilirostris*. Possibly *snethlageae* and the next discussed form are later arrivals in the lower Amazonian region than *procurvoides* and found the dry-forest "niche" preëmpted by the other species (which seems to be more abundant in the region, judging by proportions of collections). It might thus have been forced to accommodate itself to the "varzea" conditions in which it now exists.

No specimens at hand from the immediate right bank of the Madeira belong to the present group, but three examples from the left bank are conspecific though they are so distinct in subspecific characters that they deserve separation as follows.

Campyloramphus trochilirostris notabilis, new subspecies

TYPE from Lago Miguel, Rosarinho, Rio Madeira (left bank), Brazil. No. 282-312, American Museum of Natural History. Adult female collected June 14, 1931, by the Olalla brothers.

DIAGNOSIS.—Similar to *C. t. snethlageae* but with the general color paler brown and with the dorsal and ventral stripes purer white and much broader.

RANGE.—Left bank of lower Rio Madeira, Brazil.

DESCRIPTION OF TYPE.—Top of head blackish, with broad whitish or light buffy shaft-stripes narrowing toward the bases of the feathers; hind neck lighter brown on narrow lateral and terminal margins, leaving broad, whitish shaft-stripes, rounded toward the tips of the feathers; mantle near Brussels Brown, with broad, elongate-ovate spots of whitish, broader next to the neck, narrower on posterior feathers; rump with a testaceous wash; upper tail-coverts brighter, light reddish Auburn. Lores white; sides of head and neck whitish with narrow lateral margins of dusky brown; breast and sides with narrow margins of Brussels Brown and very broad whitish shaft-stripes nearly or quite reaching to the tips of the feathers; upper belly pale buffy brown on margins, bordering broad whitish or buffy shaft-stripes which become obsolete on lower belly which is light brownish buff; under tail-coverts light grayish brown with whitish shaft-lines. Wings as in *snethlageae*, tail light Chestnut x Auburn. Bill (in dried skin) dark Hazel, slightly grayish at base and tip, relatively lightly curved (compared to *procurvoides*); feet slaty. Wing, 96 mm.; (tail in molt); exposed culmen, 54; culmen from base, 58; culmen from base, measured along curve, 63; tarsus, 21.5.

REMARKS.—Male apparently like the female. A badly worn example of this sex from Lago Sampaio is somewhat darker than the type and has the streaks on the mantle noticeably narrower though it is easily separable from *snethlageae* in this and other diagnostic characters. A third example without given sex, also from Lago Sampaio, is darker than the type but has the streaks of the mantle (and other regions) equally broad. The wings of these two examples measure 95 and 94 mm.; tails, 87 and 82; culmens from base, 61 and 56; culmens from base along curve, 67 and 62.5; tarsi, 21 in both.

There is a curious difference in the texture of the body plumage of these birds and members of the *procurvoides* group, especially noticeable on the uropygium though not confined to that region. The feathers are of loose texture in both groups, having no barbicels, but they seem even less compact in *snethlageae* and *notabilis* than in the *procurvoides* group. The only significant difference under magnification appears to be the somewhat longer barbules of the *procurvoides* feathers, permitting a broader overlapping. Other members of the *trochilirostris* group exhibit the difference to a less pronounced degree. Probably the reduced contrast in the colors of the rump and back in the *procurvoides* group is due partly to this characteristic of texture.

A character of some value in the separation of the *trochilirostris* and *procurvoides* groups may be found in the length of the tarsi. In the localities where forms of both groups occur together, the examples of the *trochilirostris* group have slightly longer legs, from 21 to 22 mm.; those of the other group, from 19 to 20. This tendency is reflected in other regions where the *trochilirostris* forms may increase this measurement to 23 mm., while the *procurvoides* forms may go down to 18. Taken in conjunction with the other characters it is of considerable interest, though its absolute constancy must be substantiated by greater series. It is not correlated with a corresponding increase in the other measurements except a longer average chord of the culmen due to the lesser curvature of that member; measured along the curve, the bills in both groups are relatively equal in length.

C. t. venezuelensis apparently belongs to the *trochilirostris* group with almost as much deviation from the normal pattern as is shown by *napensis* and *thoracicus*. Its full range still remains to be worked out. Undoubtedly it extends across northern Venezuela to the Santa Marta region of Colombia, ascends the Magdalena and Cauca valleys at low elevations and reaches the western slopes of the western Andes at Alto Bonito. In Venezuela, the range extends southward to the Orinoco at Caicara, but the matter of its further extension southward is in need of further study.

Pelzeln (1868, 'Orn. Bras.,' I, p. 44), records examples of "*trochilirostris*" from Marabitanas, Barra do Rio Negro (=Manaos), and Rio Amajaú (or Anajahú), which Hellmayr (1910, Novit. Zool., XVII, p. 331) refers tentatively to *venezuelensis* though the skins from the first two localities were not to be found for reëxamination, and the bird from Rio Anajahú was not typical. I strongly suspect that the Rio Anajahú skin belongs to *snethlageae;* Manaos examples may also be referable to this

form, though it is equally possible that they really belong to *procurvoides* and the Marabitanas skins to a separable subspecies of that group which is discussed below. Since the specimens from these two localities are lost, their exact allocation must remain doubtful.

A small series of birds from eastern Panamá is unsatisfactory for the criticism of *C. t. brevipennis*, described from the Canal Zone. While the average measurements of wing and tail are below the average of Colombian and Venezuelan examples, the overlap is greater than the differences of extremes unless *brevipennis* is restricted to the Canal Zone and other localities to the eastward in Panamá are included in the range of *venezuelensis*. A male from Cape Garachiné, for example, has a wing of 100.5 mm., and a tail of 90, while one from Cotiza, Caracas, Venezuela, shows 97 and 86 respectively. Larger series from eastern Panamá are needed to determine the limits of range if two forms are to be recognized in this part of the country.

Since much comparative study was required in the *procurvoides* group, the results of the examination may be included here. In the first place, it has become apparent that the birds of this group from south of the Amazon are separable from typical *procurvoides* of the region from French Guiana southward to the north bank of the Amazon at Faro and Obidos. Examples from east of the Rio Tapajoz, the Xingú, and the Tocantins belong to *C. p. multostriatus* which is well characterized by the warm but dark brown back, the more blackish top of the head, the stronger streaking above and below with the pale streaks prominently margined with blackish, and by the clearer white throat and the darker reddish bill. It is suggestive of *C. trochilirostris thoracicus* in various respects but has the bill of the *procurvoides* group to which it is unquestionably allied by way of the form living west of the Tapajoz which presents some of the characters of both *procurvoides* and *multostriatus*. This form may be known as follows.

Campyloramphus procurvoides probatus, new subspecies

TYPE from Igarapé Auará (near Borba), Rio Madeira (right bank), Brazil, No. 279,773, American Museum of Natural History. Adult female collected March 11, 1930, by the Olalla brothers.

DIAGNOSIS.—Nearest to *C. p. multostriatus* from lower Amazonia, east of the Rio Tapajoz, but top of head less blackish; pale stripes on head and back usually narrower and more buffy in tone and not so prominently (usually not at all) outlined with dusky; general color of mantle duller brown; chin and throat duller with dark brown lateral margins on the feathers more pronounced; ventral stripes usually narrower, less strongly or not at all margined with dusky; belly less prominently striped.

Compared with typical *procurvoides* the color of the mantle is warmer with the streaks somewhat more developed, the bill is rather lighter reddish, the throat-feathers are margined laterally with brown giving a streaked appearance to the region (in *procurvoides* they pass around the tips of the feathers with a resultant squamate effect); the general color of the under parts varies from olive brown as in *procurvoides* to a much warmer tone, with the pale stripes sometimes much as in *procurvoides*, sometimes much stronger and with a little development of the dusky outlines best marked in *multostriatus*.

RANGE.—South bank of the Amazon, in Brazil, from the left bank of the Tapajoz westward at least as far as the Rio Madeira.

DESCRIPTION OF TYPE.—Top of head dark Chaetura Drab with moderately broad shaft-stripes of light buff; not reaching the tips of the feathers; hind neck like crown; sides of neck browner; mantle Brussels Brown x Argus Brown, anteriorly with rather narrow buffy shaft-streaks, obsolete on posterior portion; rump light Chestnut x Auburn in noticeable contrast to mantle; upper tail-coverts faintly darker. Lores dull whitish; auriculars with narrow buffy or whitish shaft-streaks and dark brown margins; chin whitish; throat whitish with dusky brown lateral margins not passing around the tips of the feathers except on lowermost portion; breast Dresden Brown x Raw Umber with relatively broad sagittate shaft-stripes of buffy white, not quite reaching tips of feathers and slightly outlined with dusky, at least on upper portion; sides of breast with streaks somewhat narrower; belly paler, approaching dark Isabella Color, with the shaft-stripes duller than on breast but still apparent, at least on mid-line; flanks darker and browner than belly, obsoletely streaked with paler; under tail-coverts darker than belly, near Saccardo's Umber, with whitish shaft-lines. Remiges bright Auburn with the inner webs suffused with dusky at least terminally, reaching nearly to the base of the outermost primary, but obsolete on the tertials; inner margins again brighter; outer margins tinged with brownish; greater upper wing-coverts with a stronger pale brownish tinge; median series a little clearer; lesser series distinctly brighter rufous of a testaceous hue; under wing-coverts light Ochraceous-Tawny; tail Chestnut x Bay. Bill (in dried skin) light Bay; feet dull slate. Wing, 95 mm.; tail, 75 (worn); exposed culmen, 59; culmen from base, 61; culmen from base along curve, 68; tarsus, 18.25.

REMARKS.—Males like the females but averaging slightly larger (wing, 95–99 mm. as against 93–96 in the females).

The variations of this subspecies have been mentioned above in passing. A male from Limoãl, Rio Tapajoz, shows the nearest approach to *multostriatus* in the development of the dusky outlines surrounding the pale stripes of the anterior mantle and the breast, but it is even lighter colored on the mantle than the type of the present form. Other examples have the dusky outlines less apparent than in the type, though most of them show some traces. A single female from Teffé is of uncertain position and resembles *trochilirostris snethlageae* in some respects (cinnamomeous under wing-coverts, an auburn tinge on the flanks and mid-belly, relatively lightly falcate bill of not deeply reddish color, long tarsus (21 mm.), and little contrast between the colors of lesser and greater

wing-coverts. However, the pale ventral streaks are sagittate (though not outlined with dusky) and there is considerable contrast between mantle and rump, agreeing best with the *procurvoides* group, especially with the birds from the upper Rio Negro discussed below. A series from this region will be necessary to determine the status of the resident form.

Birds from the upper Rio Negro and the upper Orinoco are also notably distinct from typical *procurvoides* but are not to be confused with *probatus*. The description follows.

Campyloramphus procurvoides sanus, new subspecies

TYPE from "Campamento del Medio," Mt. Duida, Venezeula; altitude 350 ft. No. 274,270, American Museum of Natural History. Adult male collected January 25, 1929, by the Olalla brothers.

DIAGNOSIS.—Nearest to *C. p. procurvoides* but much more warmly colored and distinctly smaller, especially the bill which averages more strongly falcate; throat less buffy, more whitish, and more streaked, not squamate.

Compared with *probatus*, the upper parts are very similar in some cases, but the under parts are distinctly warmer in tone and without any of the dusky outlines around the pale streaks; the throat is a little more squamate than in *probatus* though not so strongly as in *procurvoides*, and the bill shows the same difference from both forms in shape and length.

RANGE.—Upper Rio Negro, Brazil, to upper Orinoco, Venezuela, extending westward to the foot of the Andes in Colombia and eastward to western British Guiana.

DESCRIPTION OF TYPE.—Top of head near Sepia, with narrow buffy shaft-lines from middle of feathers to near the tips which are a little sooty; hind neck lighter brown, with shaft-streaks slightly broader and paler buffy; mantle dark Brussels Brown, anteriorly with narrow shaft-streaks, less prominent than those of hind neck and obsolete on remainder of back; rump and upper tail-coverts light Chestnut, rather sharply differentiated from mantle. Lores whitish; auriculars and sides of neck like crown but with shaft-streaks more whitish; chin whitish with a browinsh tinge on the margins of the feathers; throat-feathers with lateral margins dark brown tending to enclose the central spots of whitish which are narrowed toward the tips; breast and sides near Brussels Brown with relatively narrow sagittate shaft-spots of whitish, not reaching tips of feathers and much reduced in size on sides and upper belly, nearly obsolete on lower belly and flanks which are light Dresden Brown; under tail-coverts like lower belly. Remiges Chestnut x Auburn, clearest on tertials, but with a brownish wash on outer margins of primaries and secondaries; tip of primaries dusky (up to distal half of outermost), more diffuse on the secondaries; upper wing-coverts rufous with a brownish wash on greater and median series; under wing-coverts Ochraceous-Tawny. Bill (in dried skin) Bay, dusky at base of maxilla; feet dusky slate. Wing, 95 mm.; tail, 80; exposed culmen, 50; culmen from base, 53; culmen from base along curve, 60; tarsus, 19.

REMARKS.—Females like the males but averaging a little smaller. Wing, 89–94; tail, 74–77.5; culmen from base, 51–57; culmen from base along curve, 60–64; tarsus, 18–20. Males average: wing, 89–99 mm.;

tail, 71–88; culmen from base, 52–57; culmen from base along curve, 58–66; tarsus, 18–20.

Two females from the base of the eastern Andes of Colombia, Villavicencio and La Morelia, are close to the present form in coloration and seem to belong here. They are slightly larger than the rest of the females but within the measurements of the males, except that the Villavicencio bird has unusually long tarsi (21 mm.), in this respect like the *trochilirostris* group. Unfortunately both birds have broken bills, which prevent an accurate study of this feature. More material from this region is desirable.

The single skin from western British Guiana is quite typical of *sanus* and distinct from *procurvoides*. There appear to be no records of any form of this group from Dutch Guiana and the connection between *sanus* and *procurvoides* has yet to be established either by that route or by way of the Rio Negro.

Campylorhamphus procurvoides brasilianus Stolzmann 1926 [(December 31), Ann. Zool. Mus. Polon. Hist. Nat., V (4), p. 221], described from a specimen without sex or locality other than "Brésil," appears, from its description, to be *C. falcularius*, probably based on a "Rio" skin.

Specimens Examined

C. t. trochilirostris.—Brazil: Bahia, Santa Ritta, 2 ♂, 1 ♀.

C. t. lafresnayanus.—Brazil: Matto Grosso, Palmiras, Rio Taquary, 1 (?); Corumba, 1 (?); Urucúm, 1 ♀; Descalvados, 2 ♂. Paraguay: Fort Wheeler, 2 ♂.

C. t. snethlageae.—Brazil: Villa Bella Imperatríz, Serra de Parintins, 1 ♂ (type), 1 ♀; mouth of Rio Andirá, 1 ♂, 1 ♀; Rio Jamundá, Faro, 1 ♂.

C. t. notabilis.—Brazil: Rio Madeira (left bank), Rosarinho, 1 ♂, 1 ♀ (type), 1 (?).

C. t. devius.—Bolivia: Todos Santos, 1 ♂ (type); Río Chimoré, Mission San Antonio, 1 ♀.

C. t. napensis.—Ecuador: Río Suno, above Avila, 1 ♂ (type), 1 ♀; lower Río Suno, 1 ♀; below San José de Sumaco, 1 ♀; mouth of Río Curaray, 1 ♂. Perú: Santa Rosa, Río Ucayali, 1 ♀[1]; Puerto Bermúdez, 1 ♂[1]; Vista Alegre, Río Chinchao, 1 ♀.[1]

C. t. thoracicus.—Ecuador: Esmeraldas, 2 ♂, 1 ♀; Chone, Manavi, 1 ♂ (?); Naranjo, 2 ♂, 1 ♀; Chimbo, 1 ♂; Pambilar, 1 ♂[1]; Puente de Chimbo, 1 ♂[1], 1 ♀[1]; Santa Rosa, 3 ♀; Alamor, 2 ♂; Bucay, 1 ♀; El Destino, Manavi, 1 ♂. Colombia: Buenavista, Narino, 1 (?).

C. t. venezuelensis.—Venezuela: Las Trincheras, 1 ♂, 1 ♀; Cotiza, 1 ♂, 1 ♀; Cumanacoa, 1 ♀; Caicara, 1 ♂; La Trinidad, 1 ♀; Mt. Turumiquiri, 1 ♂. Colombia: Alto Bonito, 1 ♂; near Honda, 1 ♀; Cabrera, Tolima, 1 (?).

C. t. brevipennis.—Panamá: (Lion Hill), 1 ♂, 1 ♀.

[1]Specimens in Field Museum of Natural History, Chicago.

C. t. venezuelensis x *brevipennis*.—PANAMÁ: Cape Garachiné, 1 ♂; Tacarcuna 1 ♂, 1 ♀; Boca de Cupa, 1 ♂; El Real, Rio Tuyra, 1 ♂.

C. p. procurvoides.—FRENCH GUIANA: Tamanoir, 1 ♂. Brazil: Faro, 2 ♂, 2 ♀.

C. p. sanus.—VENEZUELA: Mt. Duida, "Campamento del Medio," 1 ♂ (type); "Playa del Río Base," 1 ♂, 1 ♀; "Píe del Cerro," 1 ♂; Río Orinoco, Esmeralda, 1 ♀; mouth of Río Ocamo, 1 ♂; Río Cassiquiare, Solano, 1 ♀: opposite El Merey, 1 ♀. BRAZIL: Rio Negro, Tatú, 1 ♂, 1 ♀; Mt. Curycuryari, 2 ♂; Rio Uaupés, Tahuapunto, 1 ♂. BRITISH GUIANA: Tumatumari, 1 ♀. COLOMBIA: Villavicencio, 1 ♀; La Morelia, 1 ♀.

C. p. probatus.—BRAZIL: Rio Madeira, Igarapé Auará, 2 ♂, 3 ♀ (including type); Rio Amazonas, Villa Bella Imperatríz, 3 ♂, 2 ♀, 1 (?); Rio Tapajoz (left bank), Limoãl, 2 ♂; Igarapé Brabo, 1 ♂; Igarapé Amorin, 1 ♀; Boim, 1 ♀.

C. p. subspecies?—BRAZIL: Teffé, 1 ♀.

C. pusillus pusillus.—COLOMBIA: "Bogotá," 1 (?); Fusugasuga,1 (?); east of Palmira, 1 ♂, 1 ♀; Salencio, 1 ♂; San Antonio, Cauca, 1 ♂; (no locality = Antioquia ?), 1 (?) (type of *C. "chapmani"*); Barbacoas, 1 ♂[1]; Cocal, 1 ♂.[1] ECUADOR: Baeza, 1 ♂; lower Sumaco, 4 ♂, 1 ♀.

C. pusillus olivaceus.—PANAMÁ: Chitrá, 1 ♀ (type); Río Calovevora,1 ♀ (?).

C. pusillus borealis.—COSTA RICA: 8 ♂, 1 ♀.

Dendrocincla merula bartletti Chubb

Dendrocincla bartletti CHUBB, 1918, Bull. Brit. Orn. Club, XXXIX, p. 5—Chamicuros, Perú; Brit. Mus.

I am unable to unite this form with the Guianan *merula* which, judging by the material at hand, is quite readily distinguished by a number of characters. The Peruvian birds are distinctly lighter and brighter in general coloration; the chin-spot is more purely whitish and is broader and less sharply defined from the throat; the outer webs of the outer two primaries are dusky, not rufescent, and the terminal portions of the primaries and outer secondaries are more sooty, dark for a greater distance from the tips (25–35 mm. on fourth and fifth outer primaries) and more sharply defined from the rufescent basal areas; the bill is longer; the lores are more whitish in most cases; the smaller, lesser upper wing-coverts are duller and less deeply rufescent; and the tail averages lighter rufous.

There is no representative of this species known from Perú north of the Amazon nor from Ecuador, but *bartletti* extends along the south bank of the Amazon eastward as far as the left bank of the Rio Madeira. Again there are no records from the north bank of the Amazon, west of the Rio Negro, but farther up this latter stream, along the Cassiquiare in Venezuela, in the vicinity of Mt. Duida, and on the upper course of the Orinoco and its affluents, the birds are indistinguishable, for the most

[1]Not typical.

part, from the Peruvian specimens. There is an occasional tendency toward true *merula*, but the birds agree best with *bartletti*.

Specimens from east of the Rio Madeira and west of the Tapajoz are much more olivaceous in tone than those from any other region, but have the sooty wing-tips and some other characters of *bartletti*. They represent an undescribed subspecies which will be discussed below. In eastern Bolivia *remota* is found, a form which is very close to *bartletti* but differs by somewhat paler, though not less rufescent, coloration. East of the Tapajoz and extending probably to the left bank of the Tocantins, though its eastward limit is in doubt, exists *castanoptera*, exceedingly like *bartletti* in general coloration but recognizable by the paler wing-tips, on which the rufous basal coloration encroaches for a greater distance, and by the rufous outer margins of the outer two primaries, following the style of *merula* though the general plumage is much brighter and more rufescent. In this form, also, the pale chin-spot is small as in *merula* though whiter and less sharply defined. The bill is largely black or with only a narrow, pale line along the gonys. On the east bank of the Tocantins another new form occurs which is deeper and clearer rufous than *castanoptera*, with the upper tail-coverts hardly brighter than the back, the chin-spot larger and more sharply defined, and the mandible paler, but the tip and outer margins of the primaries are as in *castanoptera* and *merula*.

It is possible that *merula* needs to be subdivided. A single skin from French Guiana and one from Faro, Brazil, agree well with each other. On the other hand, three specimens from British Guiana, though their general coloration is that of the other two skins, have the chin-patch much more restricted. This apparent difference may be due to the preparation of the specimens but I am not certain that it may be entirely so dismissed, for there is a certain amount of variation exhibited by the other subspecies. A good series might determine the point. I have seen no examples from Manaos but I judge this locality to be within the range of *merula* rather than of *bartletti*.

At present, as mentioned above, there is a hiatus in the range of *bartletti* and it is impossible to say whether it will be bridged (in future discoveries) by way of eastern Ecuador or the lower Rio Negro, Brazil.

Records of this species from Perú, assignable to *bartletti*, are from Chamicuros, Shanusi near Yurimaguas, and Sarayacu to which others are added in the subjoined list of material examined.

The new forms may be characterized as follows.

Dendrocincla merula olivascens, new subspecies

TYPE from Villa Bella Imperatríz, Lago Andirá, Rio Amazonas (south bank), Brazil. No. 277,998, American Museum of Natural History. Adult male collected September 10, 1930, by the Olalla brothers.

DIAGNOSIS.—Nearest to *D. m. bartletti* of northeastern Perú but decidedly more olivaceous in general coloration.

RANGE.—Area between the Rio Madeira and the Rio Tapajoz, Brazil, not crossing either stream.

DESCRIPTION OF TYPE.—Top of head and mantle Brussels Brown x Raw Umber; lower back slightly brighter but upper tail-coverts rather sharply defined, Sanford's Brown x Burnt Sienna. Lores only slightly duller and grayer than rest of the sides of the head which are darker and more olivaceous brown than the crown; chin narrowly whitish in a small patch somewhat abruptly defined from the throat which, however, has a few whitish margins on the feathers of the upper portion; throat light Raw Umber; breast and sides Raw Umber x Medal Bronze; belly a little paler, Raw Umber x Dresden Brown; under tail-coverts Sanford's Brown x Auburn. Wings light chestnut on most of exposed outer surface but outer webs of two outer primaries dusky, not rufescent; tips of primaries and outer secondaries on inner webs sooty fuscous (reaching 30 mm. from tips on fourth and fifth outer primaries) relatively clearly defined from the rufous median and basal areas; under wing-coverts tawny ochraceous-orange. Tail Chestnut x Bay. Bill (in dried skin) largely blackish but lower part of mandible pale though not sharply defined; feet slaty. Wing 100 mm.; tail 80; exposed culmen 23.12; culmen from base 27; tarsus 24.

REMARKS.—The females are possibly slightly smaller than the males in average measurements but in coloration are inseparable. One female from the type locality has the bill colored as described for the type, but the other specimens of both sexes have the mandible yellowish except for a narrow space along the tomia. The two birds with darker bills are not immature (though a black bill is a character of immaturity in this group) and I judge this variability here shows an approach toward *castanoptera* in which the bill is usually fully black or with a narrow, rather sharply defined yellowish line along the gonys.

One specimen is slightly more rufescent than the type and another is even more strongly olivaceous, but, in general, the series at hand is very uniform.

Dendrocincla merula badia, new subspecies

TYPE from Pedral, Rio Tocantins (right bank), Brazil. No. 430,982, American Museum of Natural History. Adult male collected December 8, 1931, by Alfonso M. Olalla.

DIAGNOSIS.—Nearest to *D. m. castanoptera* but upper surface decidedly clearer rufous and more inclined to chestnut; upper tail-coverts only a little brighter than the back and not sharply defined in color; under parts distinctly warmer; chin-spot more sharply defined, larger, whiter on upper portion but with an ochraceous tinge on the juncture of the chin and throat; mandible paler.

RANGE.—Region of the east bank of the Rio Tocantins and western Pará, Brazil.

DESCRIPTION OF TYPE.—Top of head and mantle light Auburn x Chestnut, becoming a little deeper on lower back and approaching Bay on the upper tail-coverts. Lores slightly duller and grayer than crown; rest of sides of the head darker and browner; chin dull whitish, with the lower portion or the adjacent part of the upper throat tinged with cinnamon-buff, the whole forming a rather sharply defined patch; lower throat and breast warm, dark Brussels Brown; belly warmer, becoming distinctly suffused with Auburn x Chestnut on lower portion and on flanks; under tail-coverts near Bay; under wing-coverts Auburn x Sanford's Brown. Exposed outer surface of wings Bay, including outer webs of two outer primaries to near tips; inner webs of remiges strongly rufescent (with a vinaceous tone) from their bases to near the tips (about 16 mm. from tips on fourth and fifth outer primaries) where the color becomes gradually obsolete; tips of primaries and outer secondaries light fuscous, not sharply defined. Tail Bay. Maxilla blackish (in dried skin); mandible dull yellowish except at extreme base; feet slaty. Wing, 100 mm.; tail, 77; exposed culmen, 21.5; culmen from base, 25; tarsus, 24.

REMARKS.—Female generally like the male but smaller. With a single specimen of each sex at hand, the exact range of individual variation can not be fixed. The present female is slightly less warm in tone below but is even nearer Chestnut above. The cinnamon-buffy tinge of the gular region appears to be more definitely on the throat than on the lower part of the chin. Both skins, however, are much "redder" than any example of any of the other forms.

A young male from Igarapé-Assú, Pará, is noted by Hellmayr (1905, Novit. Zool., XII, p. 281) which he compares with the type of *merula* from Cayenne and with a topotype of *castanoptera* from near Santarem, all three of which were found to be very similar. Later (1925, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 4, p. 371) he recognized *castanoptera* as distinct and referred the Igarapé-Assú specimen to it together with others from Peixe-Boi and Rio Guamá, all of which must be referable to the new form, *badia*. The type of *merula* is now over a hundred years old and if "foxed," as it may well be, might resemble *badia*, which in many respects is like the skins I have of the Guiana form, though much redder. Earlier confusion with *merula* may have been due to this cause.

SPECIMENS EXAMINED

D. m. merula.—FRENCH GUIANA: Pied Saut, 1 ♀. BRITISH GUIANA: Potaro Landing, 1 ♂; Tumatumari, 1 ♀; Minnehaha Creek, 1 ♀. BRAZIL: Faro, 1 ♀.

D. m. badia.—BRAZIL: Rio Tocantins, Pedral, 1 ♂ (type); Mocajuba, 1 ♀.

D. m. castanoptera.—BRAZIL: Rio Tapajoz (right bank), Diamantina, 1 ♂ (type)[1] 1 ♀[1]; Miriti-tuba, 1 ♂[2], 1 ♀[2]; Tauary, 1 (?).

[1]Specimens in U. S. National Museum, Washington, D. C.
[2]Specimens in Carnegie Museum, Pittsburgh.

D. m. olivascens.—BRAZIL: Rio Tapajoz (left bank), Limoāl, 3 ♀; Rio Amazonas (south bank), Villa Bella Imperatríz, 2 ♂, 2 ♀.

D. m. remota.—BOLIVIA: Río Yapacani, 1 ♂ (type)[1]; Río Surutú, 1 ♀.

D. m. bartletti.—BRAZIL: Rio Madeira (left bank), Rosarinho, 1 ♂, 2 ♀; Rio Negro, Mt. Curycuryari, 1 ♀; Yucabi, 1 ♂; Tatú, 2 ♂, 1 ♀; Rio Uaupés, Tahuapunto, 1 ♀; Iauarete, 1 ♀. VENEZUELA: Suapure, 1 ♂, 1 ♀; Río Orinoco, 1 km. above Ihuapo, 1 ♀; Río Cassiquiare, Solano, 1 ♀; El Merey, 1 ♀; Mt. Duida, Río Pescada, 1 ♀; Valle de los Monos, 1 ♂; "Campamento del Medio," 2 ♀. PERÚ: Orosa, 1 ♀; Río Ucayali, Lagarto, 1 ♂, 2 ♀.

Dendrocincla fuliginosa phaeochroa Berlepsch and Hartert

Dendrocinda (sic) *phaeochroa* BERLEPSCH AND HARTERT, 1902, Novit. Zool., IX, p. 67—Munduapo, Río Orinoco, Venezuela; ♂; Rothschild coll., Amer. Mus. Nat. Hist.

A series of sixty-seven skins from many parts of the range of this form, and one hundred and thirty-seven specimens of all the neighboring closely related forms, has permitted a careful study of their affinities.

The most interesting discovery has been that of the extension of range of *atrirostris* to the south bank of the Amazon between the Madeira and Tapajoz rivers and its unquestionable association with *fuliginosa* which, in turn, appears to be the eastern representative of the *meruloides* group. Certain examples of *phaeochroa* have noticeable suggestions of pale streaks on the chest which are variable in *fuliginosa* and sometimes not very strongly developed. Furthermore, the supra-auricular stripe of *fuliginosa* is somewhat variable in prominence, though always distinct, but in all skins of *phaeochroa* there is a definite development of narrow, pale cinnamomeous spots on the feathers of this region which occasionally are as well marked as in some examples of *fuliginosa*. A certain similarity in all particulars is striking.

Specimens of *fuliginosa* from south of the Amazon are definitely duller and more olivaceous brown, particularly below, than the northern birds and warrant the reinstatement of *rufo-olivacea* Ridgway of which *wallacei* Chubb is a synonym.

I concur with Chapman (1926) and Griscom (1932) in being unable to separate *christiani* Bangs from *ridgwayi* Oberholser. As Chapman pointed out, there is much variation in the birds of the western coast, but none which has any geographical significance. Central Colombian specimens (Cauca and Magdalena valleys) agree with Santa Martan skins and belong to *lafresnayei*. The north coast of Venezuela and the islands of Trinidad and Tobago are inhabited by a single form, *meruloides*.

Two skins of *meruloides* at hand are labeled as from British Guiana, collected by Alexander, but no later collectors have ever obtained this

[1]Specimens in Carnegie Museum.

form in that country nor are the exact localities known where Alexander worked. The label is a tag of the Lawrence Collection, not in the collector's handwriting, and unquestionably was attached long after the specimen was collected. A third Alexander skin is similarly labeled "Trinidad or Venezuela." No reliance can be placed on the records of these skins.

In *phaeochroa* there is some slight variation which is not pronounced enough to warrant subdivision of this subspecies. Specimens from eastern Colombia, at the foot of the eastern Andes, are somewhat more richly colored than typical examples, approaching *lafresnayei*. The series at hand from the Rio Negro is inseparable from southwest-Venezuelan skins. East-Ecuadorian, Peruvian, and west-Brazilian (south of the Amazon) specimens are occasionally slightly duller in coloration and show more regular traces of nearly obsolete pale shaft-lines on the top of the head, but there is no constant difference even of this slight nature. The tendency, apparently, is toward *atrirostris*.

I have not yet been able to examine the young bird in the Rothschild collection from Humaythá, Rio Madeira (left bank) referred by Hellmayr to *fuliginosa;* according to Hellmayr's account it is quite young and possibly indeterminable. Since *phaeochroa* is found lower down on the same side of the river, the record probably needs transference to this latter form.

The records of *fuliginosa* from Borba, however, appear to be more substantial. Dr. Hellmayr has kindly restudied the specimens in the Vienna Museum and writes me in detail about them, and from the description there is no doubt that they belong to *fuliginosa* and not to *atrirostris*. I have no skins from this locality, though some from Villa Bella Imperatríz, very little to the eastward and nearer the Amazon, are unquestionably *atrirostris*. Possibly *fuliginosa* crosses the Amazon to a very restricted area at the mouth of the Rio Madeira, but more material from Borba is needed to clear up the confusion.

Records of *phaeochroa* from Perú are from Iquitos, Huambo, and Río Tigre, to which the collection in hand adds several new localities.

Specimens Examined

D. f. fuliginosa.—French Guiana: Pied Saut, 1 ♂; Tamanoir, 1 ♀. Dutch Guiana: Paramaribo, 2 (?). British Guiana: Tumatumari, 1 ♂, 1 (?); Potaro Landing, 1 ♀; Kaietur, 1 ♂. Brazil: Faro, 6 ♂, 2 ♀.

D. f. rufo-olivacea.—Brazil: Rio Tocantins, Baiao, 3 ♂, 1 ♀; Cametá, 1 ♂; Utinga, Pará, 1 ♀; Rio Xingú, Villarinho do Monte, 3 ♂, 2 ♀; Porto do Moz, 3 ♂, 1 ♀; Rio Tapajoz (right bank), Santarem, 1 ♂, 1 ♀; Caxiricatuba, 1 ♂, 3 ♀, 1 (?).

D. f. atrirostris.—Brazil.—Rio Tapajoz (left bank), Igarapé Brabo, 1 ♂;

Igarapé Amorin, 2 ♂, 1 ♀; Limoãl, 1 ♂; Ynajatuba, 1 ♀; Rio Amazonas, Villa Bella Imperatríz, 1 ♂, 3 ♀. BOLIVIA: Mission San Antonio, Río Chimoré, 2 ♂, 3 ♀.

D. f. phaeochroa.—BRAZIL: Rio Madeira (left bank), Rosarinho, 1 ♂, 1 ♀; Teffé, 1 ♀; Rio Negro, Muirapinima, 1 ♂; Tabocal, 1 ♂, 2 ♀; Santa Isabel, 1 ♂; San Gabriel, 1 ♀; Tatú, 1 ♂, 2 ♀; Rio Uaupés, Iauarete, 1 ♂. VENEZULA: Río Cassiquiare, Buena Vista, 1 ♂; Solano, 1 (?); El Merey, 3 ♂, 1 ♀; opposite El Merey, 1 ♂, 1 ♀; junction of Río Huaynia and Río Cassiquiare, 1 ♀; Río Orinoco, mouth of Río Ocamo, 1 ♀; Mt. Duida, Valle de los Monos, 3 ♂, 2 ♀; Esmeralda, 5 ♂, 1 ♀; Lalaja, 1 ♂; "Savana Grande," 1 ♀; "Playa del Rio Base," 1 ♀; "Primer Campamento," 1 ♂; "Campamento del Medio," 2 ♂, 4 ♀; Río Pescado, 1 ♀; (western) foot of Mt. Duida, 1 ♂; Boca de Sina, Río Cunucunumá, 1 ♀; Río Caura, La Unión, 1 ♂; Suapuré, 2 ♂; La Cascabel, Río San Feliz, 1 ♀; COLOMBIA: Villavicencio, 2 ♂, 1 ♀; Barrigon, Río Meta, 1 ♀. ECUADOR: below San José, 2 ♀; Río Suno, above Avila, 1 ♀; mouth of Río Curaray, 1 ♀. PERÚ: Puerto Indiana, 1 ♀; Anayacu, 1 ♀; Pomará, 1 ♂, 1 ♀; Río Seco, west of Moyobamba, 1 ♂, 1 ♀; Sarayacu, 1 ♀; Lagarto, upper Ucayali, 1 ♀.

D. f. lafresnayei.—COLOMBIA: Río Lima, 1 ♂; Botero, 1 (?); Honda, 1 ♂; Río Frio, 2 ♀; Puerto Valdivia, 1 ♀; (Santa Marta region), 1 (?); Las Nubes, 1 ♂, 1 (?); Onaca, 1 ♀; Minca, 1 (?); Valparaiso, 1 ♂, 1 (?).

D. f. meruloides.—VENEZUELA: Tucacas, Estado Falcón, 2 ♂; El Limón, 1 ♀; Las Trincheras, Estado Carabobo, 2 ♀, 1 (?); Quebrada Secca, 2 ♀; El Guayabal, 1 ♀; Cristóbal Colón, 3 ♂, 4 ♀; Río Neveri, 1 ♂, 1 ♀. TRINIDAD: Carenage, 1 ♂, 1 ♀; Caparo, 1 ♂; Princestown, 5 ♂, 2 ♀, 1 (?). TOBAGO: 1 ♂.

D. f. ridgwayi.—ECUADOR: Río de Oro, 3 ♂, 1 ♀; Zaruma, 1 ♂, 1 ♀; Coco, Río Chimbo, 1 ♀; Río Jubones, 1 ♂; Alamor, 1 ♂; Santa Rosa, 1 ♀; Esmeraldas, 1 ♀; Naranjo, 3 ♀; Chongon Hills, 1 ♂; Chone, 2 ♂. COLOMBIA: Nóvita, 1 ♂, 1 ♀; Baudo, 1 ♀; Barbacoas, 1 ♂. PANAMÁ: Tacarcuna, 2 ♂, 5 ♀; (Lion Hill), 1 (?); Barro Colorado Island, 1 ♂, 1 ♀; Tapalisa, 1 ♂; Capeti, 1 ♀. COSTA RICA: Guacimo, 1 ♂, 1 ♀; Bonilla, 2 ♀; Atalanta, 1 ♂; Volcan Turrialba, 1 ♂.